Amendment to the TMDL document, titled *North Fork and South Fork Pound River Phased TMDLs for Benthic Impairments Wise County, Virginia* (Initially submitted to VADEQ April 2010)

1. INTRODUCTION

In addressing provisions of the Clean Water Act and agreements with the United States Environmental Protection Agency, Virginia's Department of Environmental Quality initiated the TMDL development process for North Fork and South Fork Pound Rivers and selected tributaries in Wise County, Virginia. During development of the TMDL, uncertainties and differences of interpretation regarding predictive tools, monitoring data, and field conditions used to allocate pollution loads were identified. Although the TMDL has been submitted as a final draft based on the available data, additional monitoring will be needed and a second phase of development will be necessary in order to complete an accurate TMDL. Therefore, the report is being presented as a "phased" TMDL in accordance with EPA guidance. Rather than rely on waste load allocations (WLA) modeled with uncertainty, allocation tables in the draft report have been replaced and WLAs have been calculated as described in Section 2 of this document. New or modified discharge permits for coal mining operations in the watershed will be issued consistent with the WLA through the second phase of development.

2. ALLOCATION

The only changes to the TMDL, as developed in the report titled, *North Fork and South Fork Pound River Phased TMDLs for Benthic Impairments Wise County, Virginia,* were made to the WLAs. The WLAs for mining were derived in the following manner; NPDES bimonthly monitoring data in the watershed was selected for each year from 1995 to 2009 for each constructed discharge location. The data utilized consisted of sample date, flow, and concentration for TSS. Each sample record was weighted for the number of days the sample represents and multiplied by the flow and concentration to get the loading in kilograms for that particular sample. Then each record was summed for the year to get an annual waste load. The median of the annual waste loads was then assigned as the mining WLA for the watershed. TDS data for constructed discharge locations has only been required since April 2009, therefore the mining waste load for TDS was determined from the available data and

annualized for 2009 and 2010. The average waste load was then determined from the two values and assigned as the mining WLA. Given the two-year time frame for revising the TMDL, no allocation for "future growth" was included.

2.1 Total Suspended Solids (TSS)

Total Suspended Solids (TSS) was identified as a probable stressor in each of the impaired water bodies addressed by this TMDL (Lower North Fork Pound River, Phillips Creek, and South Fork Pound River). Table 1 shows the average annual TMDL, which gives the average load of TSS that can be present in the stream in a given year, and still protect aquatic life. Starting in 2007, the USEPA has mandated that TMDL studies include a maximum daily load as well as the average annual load previously shown. The approach to developing a daily maximum load was described in Section 7.1.3 of the original TMDL. To be consistent with the original TMDL development, the WLAs were calculated by dividing the annual WLA by 365 days/year. The maximum daily in-stream loads for the study area are shown in Table 2.

Table 1. Average Annual TMDL TSS allocation (t/yr) in the North Fork and South Fork Pound River watersheds.

Impairment	WLA	LA	MOS	TMDL
Lower North Fork Pound River	0.00	320.00	36.00	356.00
Phillips Creek	8.62	409.00	52.60	470.22
	Permit No. *WLA*			
	1100033 *0.30*			
	1100520 *1.07*			
	1100787 *1.56*			
	1101272 *3.05*			
	1101565 *0.39*			
	1101760 *0.51*			
	1201664 *0.00*			
	1501778 *0.01*			
	1600876 *1.73*			
South Fork Pound River	14.88	3,012.90	362.10	3,389.88
	Permit No. *WLA*			
	1100033 *0.30*			
	1100044 *0.01*			
	1100520 *1.22*			
	1100717 *1.44*			
	1100787 *1.56*			
	1101102 *0.17*			
	1101270 *0.18*			
	1101272 *4.23*			
	1101401 *2.82*			
	1101565 *0.39*			
	1101760 *0.51*			
	1201187 *0.06*			
	1201338 *0.11*			
	1201664 *0.00*			
	1501778 *0.01*			
	1600876 *1.73*			
	1601939 *0.14*			

Table 2. Maximum "daily" TSS loads (t/day) in the North Fork and South Fork Pound River watersheds.

Impairment	WLA	LA	MOS	TMDL
Lower North Fork Pound River	0.00	5.44	0.61	6.05
Phillips Creek	0.02	6.17	0.70	6.89
	Permit No. *WLA*			
	1100033 *0.0008*			
	1100520 *0.0029*			
	1100787 *0.0043*			
	1101272 *0.0083*			
	1101565 *0.0011*			
	1101760 *0.0014*			
	1201664 *0.0000*			
	1501778 *0.0000*			
	1600876 *0.0047*			
South Fork Pound River	0.04	31.15	3.54	34.73
	Permit No. *WLA*			
	1100033 *0.0008*			
	1100044 *0.0000*			
	1100520 *0.0033*			
	1100717 *0.0039*			
	1100787 *0.0043*			
	1101102 *0.0005*			
	1101270 *0.0005*			
	1101272 *0.0116*			
	1101401 *0.0077*			
	1101565 *0.0011*			
	1101760 *0.0014*			
	1201187 *0.0002*			
	1201338 *0.0003*			
	1201664 *0.0000*			
	1501778 *0.0000*			
	1600876 *0.0047*			
	1601939 *0.0004*			

2.2 Total Dissolved Solids (TDS)

Total Dissolved Solids (TDS) was identified as a probable stressor in two of the impaired water bodies addressed by this TMDL (Phillips Creek, and South Fork Pound River). Table

3 shows the average annual TMDL, which gives the average load of TDS that can be present in the stream in a given year, and still protect aquatic life. Starting in 2007, the USEPA has mandated that TMDL studies include a daily load as well as the average annual load previously shown. The approach to developing a daily maximum load was described in Section 7.1.3 of the original TMDL. A coefficient of variation (COV) of 0.6 was assumed for TDS. To be consistent with the original TMDL development, the WLAs were calculated by dividing the annual WLA by 365 days/year. The maximum daily in-stream loads for the study area are shown in Table 4.

Table 3. Average Annual TMDL TDS allocation (kg/yr) in the North Fork and South Fork Pound River watersheds.

Impairment	WLA	LA	MOS	TMDL
Phillips Creek	3,031,756	42,091	Implicit	3,073,847
	Permit No. *WLA*			
	1100033 *262,194*			
	1100520 *481,089*			
	1100787 *653,354*			
	1101272 *76,607*			
	1101565 *122,571*			
	1101760 *207,038*			
	1201664 *933*			
	1501778 *1,732*			
	1600876 *1,226,238*			
South Fork Pound River	5,231,268	568,467	Implicit	5,799,735
	Permit No. *WLA*			
	1100033 *30,360*			
	1100044 *3,423*			
	1100520 *574,403*			
	1100717 *1,083,591*			
	1100787 *633,074*			
	1101102 *94,772*			
	1101270 *92,453*			
	1101272 *500,977*			
	1101401 *1,575,419*			
	1101565 *12,302*			
	1101760 *11,664*			
	1201187 *43,885*			
	1201338 *63,917*			
	1201664 *53*			
	1501778 *98*			
	1600876 *73,479*			
	1601939 *437,398*			

Table 4. Maximum "daily" TDS loads (kg/day) in the North Fork and South Fork Pound River watersheds.

Impairment	WLA		LA	MOS	TMDL
Phillips Creek	8,302		25,361	Implicit	33,663
	Permit No.	*WLA*			
	1100033	*718*			
	1100520	*1,317*			
	1100787	*1,789*			
	1101272	*210*			
	1101565	*336*			
	1101760	*567*			
	1201664	*3*			
	1501778	*5*			
	1600876	*3,357*			
South Fork Pound River	14,322		49,193	Implicit	63,515
	Permit No.	*WLA*			
	1100033	*83*			
	1100044	*9*			
	1100520	*1,573*			
	1100717	*2,967*			
	1100787	*1,733*			
	1101102	*259*			
	1101270	*253*			
	1101272	*1,372*			
	1101401	*4,313*			
	1101565	*34*			
	1101760	*32*			
	1201187	*120*			
	1201338	*175*			
	1201664	*0*			
	1501778	*0*			
	1600876	*201*			
	1601939	*1,198*			